



Outcomes Resulting from the Implementation of a Tiered Curriculum Model

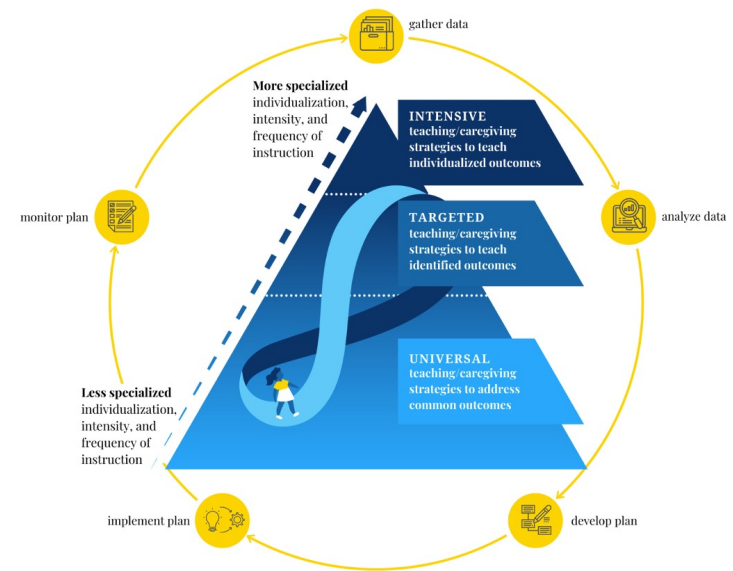
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MULTI-TIERED SYSTEMS OF SUPPORT

DEC 2021



▶ “In early care and education, an MTSS framework is a way to provide high-quality teaching and responsive caregiving through the delivery of differentiated support for all young children.” DEC 2021



AEPS Curriculum Framework

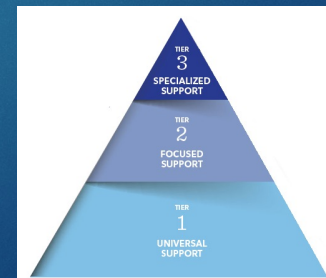
1. Select curriculum that matches the child's/children's developmental level

- Beginning
- Growing
- Ready

2. Identify routines and activities

- Active & Outdoor Play
- Arrival & Departure
- Art
- Bath Time
- Blocks
- Circle Time
- Diapering, Toileting & Handwashing
- Dramatic Play
- Dressing
- Field Trips
- Math
- Meals & Snacks
- Music & Movement
- Naps & Sleep
- Science
- Sensory
- Technology
- Writing

3. Identify level of support need

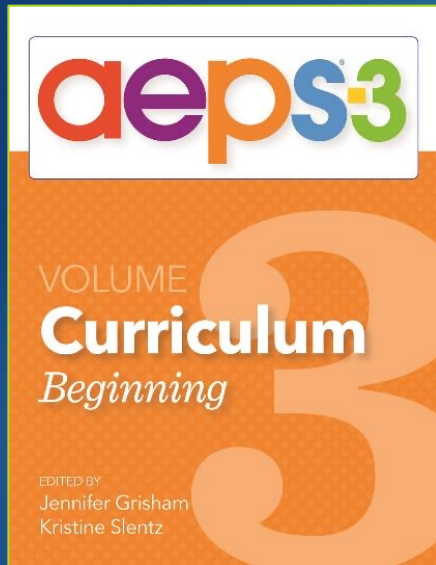


Specialized

Focused

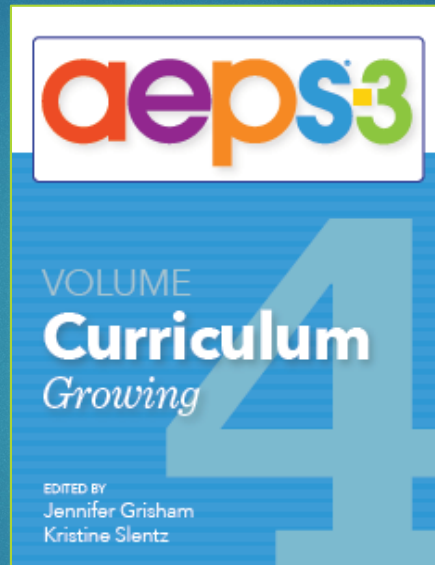
Universal

AEPS (2022) Curriculum Levels



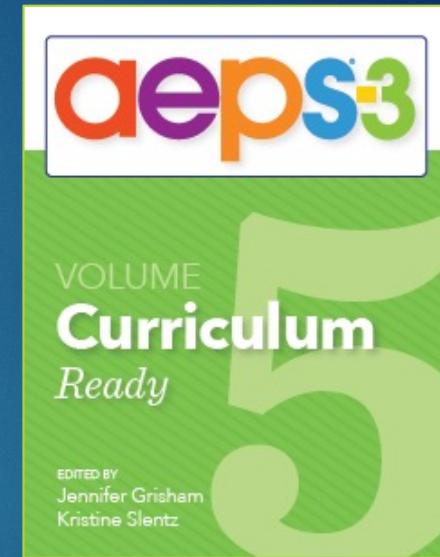
Infant & very early skills

Infant to 18 months
developmentally



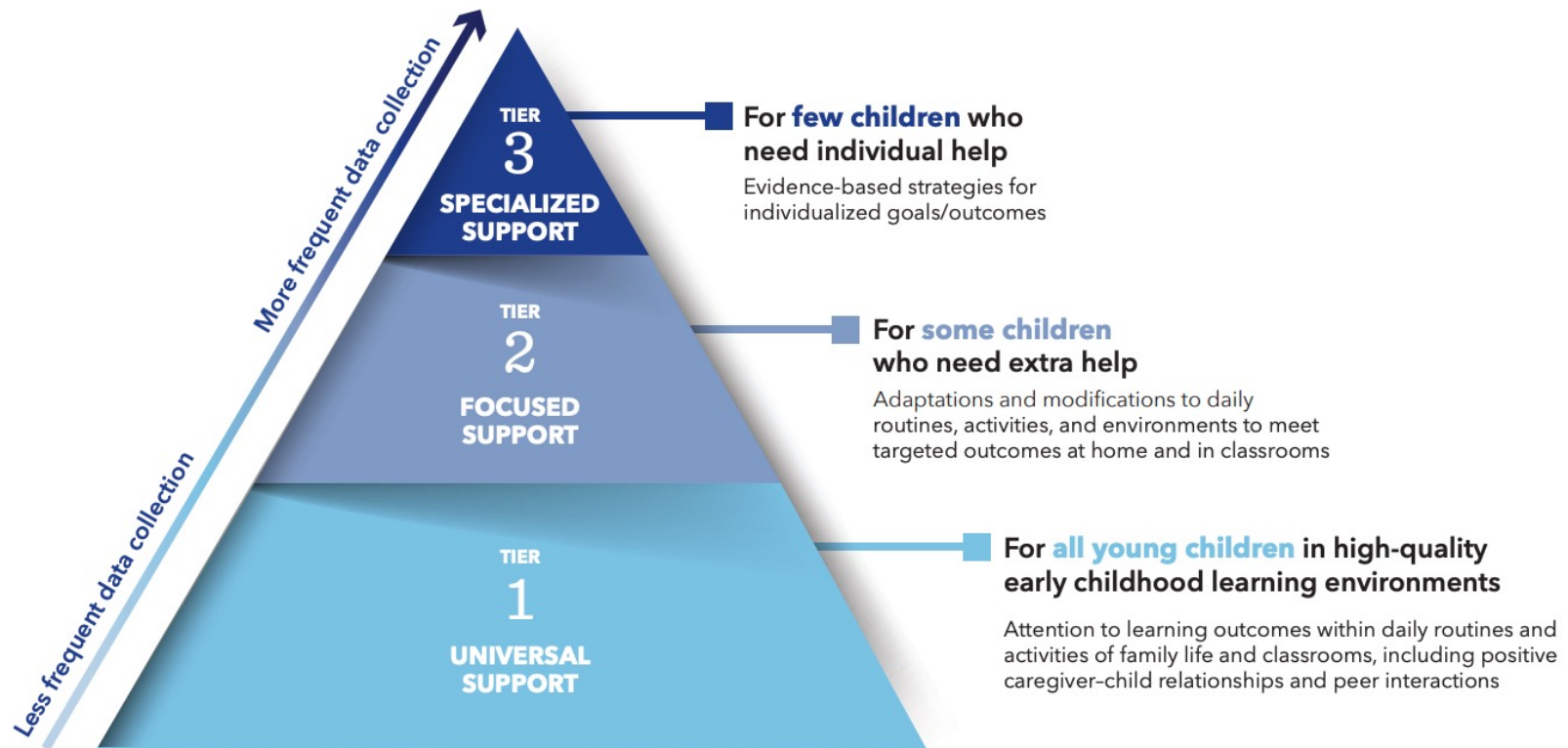
Toddler & early skills

18 to 36 months
developmentally



Preschool & school
preparation skills

3 to 6 years
developmentally



Each Activity/Routine Contains:

Description of activity/routine with overview of areas to address

AEPS-3 items that may be embedded into the activity/routine

Specific embedded learning opportunities

Tiered instructional strategies: Universal, Targeted, Specialized

Examples of Universal Strategies

- Hands on materials

- Activities that are based on child interest

- High quality learning environment

- Support for promoting social interactions between children

- Nurturing relationships between adults and children

- Instructional support practices

Examples of Focused Strategies

- Additional opportunities for children to practice skills

- Adaptations and modifications

- Formation of intentional small groups

- Peer modeling

- Scaffolding

Examples of Specialized Strategies

- Disability specific strategies

- Use of clear instructional opportunities

- Use of prompts to support child's learning

- Consequence strategies

- Naturalistic language interventions

- Response prompting procedures

Each Curriculum Guide Offers Explicit Guidance On:

01

Determining what outcomes to teach *all, some, and individual* children

02

Identifying the level to use (i.e., *beginning, growing, ready*)

03

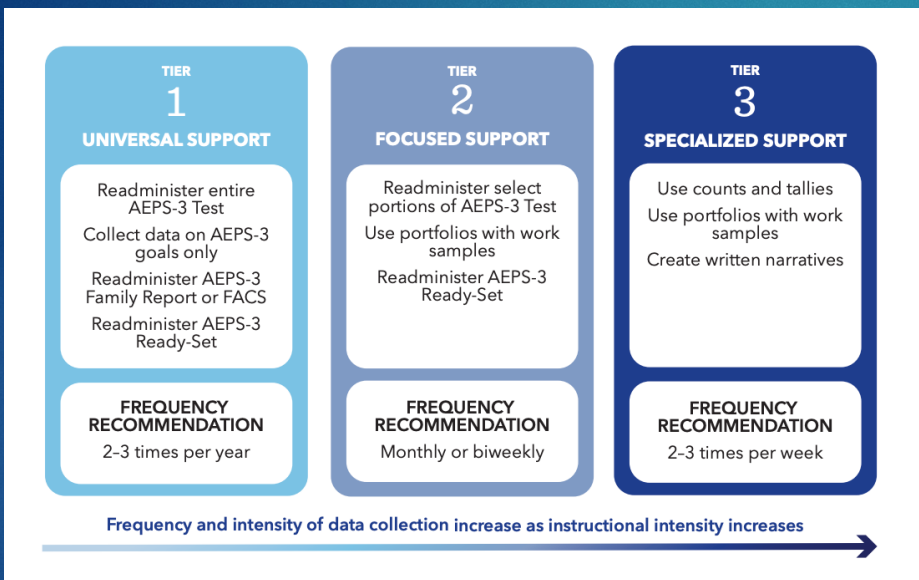
Identifying the instruction tier (i.e., *universal, targeted, systematic*)

04

Using AEPS-3 data for progress monitoring



Progress Monitoring Guidance



Curriculum Validity Study

Research Questions

1. What are perceptions of early intervention and preschool providers of the AEPS-3 curriculum?
2. Do teachers self-report that they implement universal strategies identified through the AEPS-3 curriculum? (fidelity measure)
3. Do children make progress when teachers implement the AEPS-3 curriculum?
4. Do children make progress on targeted goals using AEPS-3 tiered supports?

Subjects

Adults - n= 11


- 2 states (Northeast and Mid-south)
- Centerbased and Homebased service providers
- 1 Associate's Degree, 10 Master's degrees
- 2 - 20 years of experience working with children.
- All had previously participated in AEPS Field Test

Children - n= 25

- 64% male; 36% female
- 52% with disabilities; 48% without disabilities
- 48% Caucasian; 24% Biracial; 16% Asian; 4% Latino; 4% African American; 4% Unknown

Procedures

- ▶ Selection of up to 3 children (with disability; without disability; at-risk)
- ▶ Training on new curriculum
- ▶ Administration of AEPS-3 on focus children
- ▶ Selection of 3 goals for each child
- ▶ Selection of tier of instruction for each goal
- ▶ Selection of 3 activities/routines for teaching each goal
- ▶ Development of Planning Forms for Tier 1, Tier 2, and/or Tier 3
- ▶ Development of Progress Monitoring for Tier 1, Tier 2, and/or Tier 3
- ▶ Implementation of Curriculum for 7-10 weeks
 - ▶ Collect data 1 time per week on implementation of tier 1
- ▶ Collect program monitoring data
 - ▶ Tier 1: Readminister AEPS-3 after 7-10 weeks
 - ▶ Tier 2: Once a week
 - ▶ Tier 3: 2-3 times per week



What are perceptions of
early intervention and
preschool providers of the
AEPS-3 curriculum?

Focus Group



Questions regarding planning with AEPS-3 Curriculum



Questions regarding implementation of AEPS-3 Curriculum



Questions regarding progress monitoring procedures associated with AEPS-3 Curriculum



Overall usefulness of AEPS-3 Curriculum



Suggestions for changes

Analysis

- ▶ 2 investigators independently coded focus group transcripts
- ▶ Investigators met and discussed codes and generated themes
- ▶ 2 members of focus group independently checked results and agreed with 100% of themes generated by investigators

Results - Themes and Subcategories

▶ ***Process of Using AEPS-3 Curriculum***

- ▶ Children's developmental age level
- ▶ Skills matrix used for identifying routines and instructional strategies
- ▶ Child preferences
- ▶ Embedding learning opportunities in daily routines and activities
- ▶ Link from assessment, to targeted skills, to identifying strategies and selecting routines

Results - Themes and Subcategories

▶ ***Recommended Practices addressed by AEPS-3 Curriculum***

- ▶ Consistency in providing supports
- ▶ Supports Intentional planning and implementation
- ▶ Links curriculum with assessment results
- ▶ Use embedding schedules for planning – embedded instruction
- ▶ Intentional focus on targeted skills

Results - Themes and Subcategories

▶ ***Guidance for using a multi-tiered system of support (MTSS)***

- ▶ Assessment identifies where children are within a developmental sequence
- ▶ Uses assessment results for identifying targeted skills and decision making
- ▶ Begins with universal supports and moves to increased intensity and differentiated instruction as needed
- ▶ Includes data monitoring on targeted skills that is feasible

Results - Themes and Subcategories

▶ ***Training Issues***

- ▶ Training as it relates to supporting families and other providers
- ▶ Relationship between program's use of current practices and use of AEPS-3 Curriculum.
- ▶ How they are congruent as well as non-congruent.

Suggested Changes

·Training to clarify how Routine Activities can encompass more than the title reflects. For example, the Activity “Field Trips” encompasses typical home outings such as going to the park, the grocery store, to visit grandparents, take a bus ride.

Include an online system where you can individualize your own Routine Activity.

Do children make progress when teachers implement the AEPS-3 curriculum?

Method

- Pre/Post
- Teachers administered AEPS-3 prior to implementing the curriculum and after 7-10 weeks of implementing the curriculum

Results

- Percentage of children whose post scores increased from pretest ranged 61% - 79%
- Percentage of change across all areas ranged from 10% (social-emotional) - 46% (literacy)

Progress on AEPS-3				
Developmental Area	Pre Test (average raw scores)	Post Test (average raw score)	Average % change	% Change
Fine Motor	50.34	53.69	10%	74%
Gross Motor	98.24	106.28	14%	72%
Adaptive	64.13	69.34	15%	74%
Cognitive	53.54	60.31	25%	68%
Math	21.56	25.52	23%	61%
Literacy	33.34	38.26	46%	65%
Social- Communication	58.79	63.83	14%	67%
Social-Emotional	70.7	75.58	10%	79%

Do children make progress on targeted goals using AEPS-3 tiered supports?

PROGRESS MONITORING – TARGETED SKILLS

Child: _____ E.F. 1.1.3.2.2 _____

Targeted Skill: _____ Follows multi step directions _____

AEPS Goal and Objective	12/4	12/11	12/18	1/8	1/15	1/22	1/29	2/5	2/12
Follows multi step directions	0	0	0	0	1	1	1	1	1
Follows multi step directions with contextual cues	1	1	2	2	2	1	2	2	2
Follows 1 step directions without contextual cues	2	2	2	1	1	2	2	2	2
Follows 1 step directions with contextual cues	2	2	2	2	2	2	2	2	2
Summary									

Key
 2=Mastered
 1= Emerging
 0=Not Ready

- ▶ Method
 - ▶ Teachers collected weekly data on AEPS-3 goals/objectives identified as targeted goals
 - ▶ Used same scoring system as full AEPS-3 test
 - ▶ 2 == Master
 - ▶ 1 = Emerging
 - ▶ 0 = Not ready
- ▶ Results
 - ▶ Children made progress on 28 of 41 identified targeted goals (67%)

Progress on Targeted Goals			
	# of Goals	# Goals Progress	Progress on Goals (%)
Fine Motor	11	9	82%
Gross Motor	2	1	50%
Adaptive	4	2	50%
Cognitive	3	1	33%
Literacy	4	2	50%
Math	0	0	0%
Social Emotional	8	5	63%
Social Communication	11	8	73%
TOTAL	43	28	57%

Discussion

- ▶ Most research to date on MTSS for young children has emphasized a specific content area (e.g., literacy or math) or developmental area (e.g., social-emotional or language). The current student examines a tiered model that considers all areas of development/content areas.
- ▶ The AEPS-3 curriculum aligns with DEC (2021) key practices for implementing MTSS with young children including universal screening, differentiated goals and outcomes, tiered instruction, and progress monitoring.
- ▶ Implementation fidelity focused on dosage, and reported by teachers which has been used in other curriculum research studies (Hamre, et al. 2009)
- ▶ Pretest-Post-test scores have been used in other studies of preschool curriculum to examine the effect of the curriculum on child outcomes (Upshur, et al. 2017)

Limitations/Future Research

Limitations

- ▶ Research conducted during COVID-19; no opportunity to collect reliability data
- ▶ Descriptive study – No conclusions can be drawn about relationships between outcomes and use of curriculum

Future Research

- ▶ Direct observations of teachers' implementation fidelity – development of fidelity measures
- ▶ Experimental research design – Single case design - RCT